

**NATURAL RESOURCES CONSERVATION SERVICE  
CONSERVATION PRACTICE STANDARD**

**CONTOUR STRIPCROPPING**

(Acre)

**CODE 585**

**DEFINITION**

Growing row crops, forages, small grains, or fallow in a systematic arrangement of equal width strips on or near the contour of the field slope.

**PURPOSES**

- To reduce sheet and rill erosion
- To reduce transport of sediment and other water-borne contaminants

**CONDITIONS WHERE PRACTICE APPLIES**

This practice applies on sloping land where crops are grown.

This practice is best suited where topography is uniform and cropped fields are less than 15% slope.

The practice is not well suited to rolling topography having a high degree of slope irregularity. Use Field Stripcropping (586), when field slopes and topography becomes too uneven for practical implementation of the practice.

**CRITERIA**

**General Criteria Applicable to All Purposes**

Contour Stripcropping will be planned as a

component of a Resource Management System (RMS).

Revised Universal Soil Loss Equation (RUSLE) will be used to determine number of strips, strip width, maximum row grade, cover and management and soil roughness values for the system.

Selection of crops and tillage management shall be preformed so that adjacent strips do not enter the critical erosion period in a erosive condition.

**\*Strip Width And Alignment**

Cropped strips shall be alternated down the hill slope. Spacing and width of crop strips shall be based on on-site field conditions evaluated by RUSLE. Support practices included in the system shall generate sufficient cover and surface roughness to achieve the desired erosion protection. Reference the Considerations section.

All tillage and planting operations will follow the contour line established for the strips.

When field edges are located on ridge points or steep slopes, establish sod turn strips for machinery to turn on.

When strips cross draws which have established or planned grass waterways installed, maintain the waterways to allow movement of farming equipment through the waterway from one strip to another. Mow or harvest sod turn strips and grassed waterways at least once yearly after ground-nesting birds have hatched. Harvesting is optional.

### **Maximum Row Grade**

The uphill edge of each strip in the system shall not exceed 2 percent off contour. The bottom edge of each strip shall be adjusted as needed to match equipment width for managing crops located below the strip. The narrowest point of the strip shall not be less than the design width of the strips as determined by RUSLE in multiples of farming equipment used on the field.

### **Minimum Ridge Height**

The ridge height shall be designed to reduce soil erosion compared to that of rows oriented up and down the slope. Ridge height design will be determined using on site conditions and current erosion prediction technology approved for use.

The minimum ridge height criteria is not required where Residue Management No-Till/Strip-Till, or Direct Seed practices are used in the system.

### **Critical Slope Length**

The critical slope length for contour stripcropping is 1.5 times the critical slope length determined for contour farming. A contour stripcropping layout shall not occur on a slope longer than the critical slope length unless supported by other practices that reduce slope length below

critical (e.g., diversions, terraces). The computation of critical slope length shall be determined using approved erosion prediction technology.

### **Additional Criteria to Reduce Sheet and Rill Erosion**

#### **Arrangement and Vegetative Condition of Strips**

Alternate strips of erosion-prone crops or fallow (Cropland Cover-Management Conditions 4-7) down the slope with strips of erosion-resistant cover (Cropland Cover-Management Conditions 1-3). If condition 3 is utilized as one of the erosion resistant strips, at least 75 percent surface residue cover shall be present. The erosion resistant cover shall be present during periods when erosion is expected to occur.

No two adjacent strips shall be in an erosion-prone condition at the same time during the year. However, two adjacent strips may be in erosion-resistant cover at the same time.

A vegetative cover shall be selected that is tolerant of the anticipated depth of sediment deposition and potential pesticide damage.

### **Additional Criteria to Reduce Transport of Sediment and Other Water-borne Contaminants**

#### **Arrangement and Vegetative Condition of Strips**

Erosion-prone crop or fallow strips shall be managed as Cropland Cover-Management Conditions 3-5. Erosion-prone strips shall be alternated down the slope with strips of erosion-resistant cover that meet Cropland Cover-Management Conditions 1-2. The erosion resistant cover shall be present during periods when erosion is expected to occur.

No two adjacent strips shall be in an erosion-prone condition at the same time during the year. However, two adjacent strips may be in erosion-resistant cover at the same time.

A vegetative cover shall be selected that is tolerant of the anticipated depth of sediment deposition and potential pesticide damage.

## CONSIDERATIONS

Although this practice may be applicable on steeper slopes and/or in areas with higher 10-year-frequency, single storm EI values, it will be less effective in achieving the purpose(s) of the practice on slopes exceeding 15 percent and in areas with 10-year storm EI values greater than 140. (EI = total storm energy times the maximum 30-minute intensity).

The practice has the greatest impact where cropped or fallow strips having less than 10 percent cover are alternated with close grown and/or grass/legume strips (Cover-Management Condition 1-2), or strips of Residue Management No-Till/Strip-Till, or Direct Seed with 75 percent or greater surface cover (Cover-Management Condition 3). [Cover-Management conditions are described in Chapter 6, Predicting Soil Erosion by Water, A Guide to Conservation Planning with the Revised Universal Soil Loss Equation.]

The Conservation Crop Rotation on stripcropped fields should be consistent with the farm enterprise crop mix and/or associated livestock operation. These will influence the proportion of row crops, close growing crops, and meadow crops.

To avoid wide fluctuations in acreage of different crops from year to year, fields having identical crop rotations can be set up that are nearly equal in size and have

offset years of rotation commencement. The number of fields needed to produce a nearly constant acreage of each crop for each year in the rotation is equal to one half of the years in the rotation. Even-year rotation lengths are preferable to odd-year rotation lengths for ease of design.

Protect areas of existing or potential concentrated flow erosion by any one or more suitable conservation practices, such as Grassed Waterways, Water and Sediment Control Basins, Diversions, Terraces, or Underground Outlets.

Design and install the strip layout to best facilitate operation of all machinery used on the strips. To avoid point rows and partial machine passes, lay out strip widths to have some multiple of full width passes by all farm implements, even at unavoidable constrictions.

Prior to design and layout, changes in field boundaries or shape should be considered, where possible and feasible, to improve the effectiveness of the practice and the ease of performing field operations across the slope.

Prior to layout, inspect the field to find key points for commencing layout or getting a full strip width to pass by an obstruction or ridge saddle. Account for access road widths when they must cross the field, and adjust the strip boundary on either side accordingly.

When the slope length used in erosion prediction exceeds the critical slope length for the cover-management condition that best characterizes the field to be contour stripcropped, establish structures, such as Diversions or Terraces, to reduce slope length below the critical slope length.

When this practice is used in combination with Diversions or Terraces coordinate the strip layout with the diversion or terrace

grade and spacing so that strip boundaries will parallel terraces wherever possible within the criteria for row grade. Where grass-back or narrow-base terraces are used, allow for the uncropped width along the terrace so that the same strip width is maintained for all strips in the field.

Retaining as much crop residue as possible on the soil surface by using residue management practices can maximize critical slope lengths. Certain tillage practices, such as uphill plowing and deep tillage with heavy implements, can also be used to increase random roughness, allowing deposition to occur in depressions between soil clods and increase critical slope length. However, if the most erosion-prone strips of the field are kept very rough, in high ridges, or under heavy residue most of the year, there is little need for stripcropping as an erosion and sediment control practice. Little sediment will be delivered to the protective cover strips.

Contour stripcropping may need to be used in combination with other conservation practices to meet the goals of the conservation management system.

## **PLANS AND SPECIFICATIONS**

Specifications for installation and maintenance of Contour Stripcropping shall be prepared according to the Criteria, Considerations, and Operations and Maintenance described in this standard, and shall be recorded on specification sheets, job sheets, narrative statements in conservation plans, or other acceptable documentation.

## **OPERATION AND MAINTENANCE**

Conduct all farming operations parallel to the strip boundaries except on end rows

that have gradients flatter than the criteria set forth in this standard unless the end rows are in cover-management condition 3.

Plant odd areas and short rows to maximize adherence to the contour and protect sensitive areas. Using no-till in the odd areas and short rows or seeding close-grown crops rather than row crops increase options.

Substituting a crop different from one called for in the planned crop rotation, or adjusting the crop rotation due to failed crops or loss of stand, is acceptable, provided neither situation allows two adjacent erosion-prone strips.

Sediment accumulations along the upslope edge of protected strips may need to be smoothed or redistributed to maintain uniform sheet flow along the strip boundary.

When headlands/end rows are in permanent cover, renovate as needed to keep ground cover above 65 percent. No-till renovation of headlands/end rows is recommended but in any case should only include the immediate seedbed preparation and reseeding to a sod-forming crop with or without a nurse crop. Maintain full headland/end row width to allow turning of farm implements at the end of a tilled strip to double back on the same strip.